

WHAT IS GIS?

WHAT CAN IT DO FOR ME?

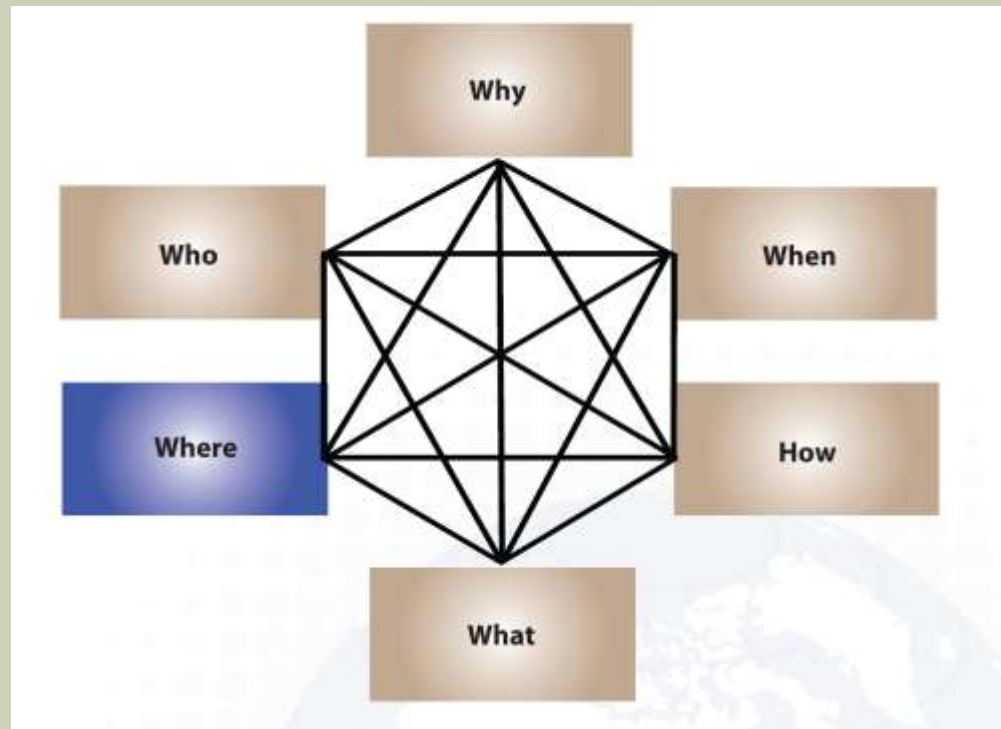
GIS Day November
17th, 2011

GIS for Managers

Mark Greninger
Geographic Information
Officer
County of Los Angeles

WHAT IS GIS?

- Any information system that integrates, stores, edits, analyzes, shares and displays geographic information for informing decision making.



GEOGRAPHY IS EVERYWHERE

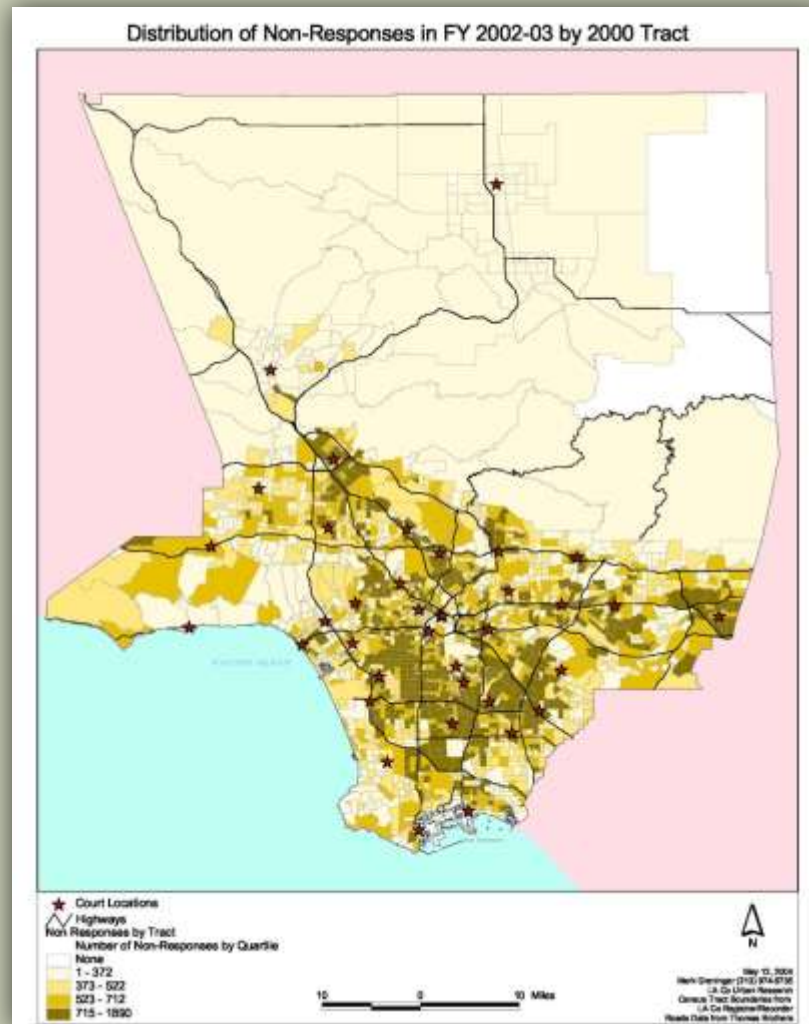
- You have a GIS record in your wallet.
- The geography tag complements more traditional tags such as SSN, Account #, Driver's License #
- Your address is a geographic reference.
 - State
 - Zipcode
 - City
 - Street
- Single record with attached geographic data.



HOW IS THAT GEOGRAPHY USED?

- Pool for jurors is pulled from two main sources:
 - Voter registrations
 - DMV license database
- Geography is used to:
 - Select jurors in the correct County.
 - Assign Jurors to the nearest court (saves reimbursement Money).
 - Provide a map to the court parking for jurors.
 - Check response rates

DISTRIBUTION OF NON-RESPONSES



GIS IN LA COUNTY

- Estimated that > 90% of all information is government is geography related
- What geographic information do you have?
 - Client Locations
 - Service Locations
 - Administrative Boundaries
 - Political Jurisdictions
 - Property Information
- Each one of these is a “GIS Layer” or “GIS Data Layer”

WHAT IS A GIS DATA LAYER

- A set of related information – like a spreadsheet or database table.
 - Table of client addresses
 - Table of parcel numbers
 - Chart of clients by Supervisorial District
 - Table of planning areas with names
- But with geographic information included
- Four main types of GIS Data Layers
 - Points (like a client address or service location)
 - Lines (like streets or rivers)
 - Polygons (like city boundaries or supervisorial district boundaries)
 - Rasters/images (satellite/aerial imagery)

HOW ARE GIS DATA LAYERS CREATED?

- Created by Professionals
 - Legal City Boundaries
 - Parcels
- Joining non-GIS information to GIS Reference Layers
 - Census Data
 - Zipcode information
- Created through reference or GIS processing
 - Geocoding addresses
 - Buffering, distance calculations, or other geographic tools.

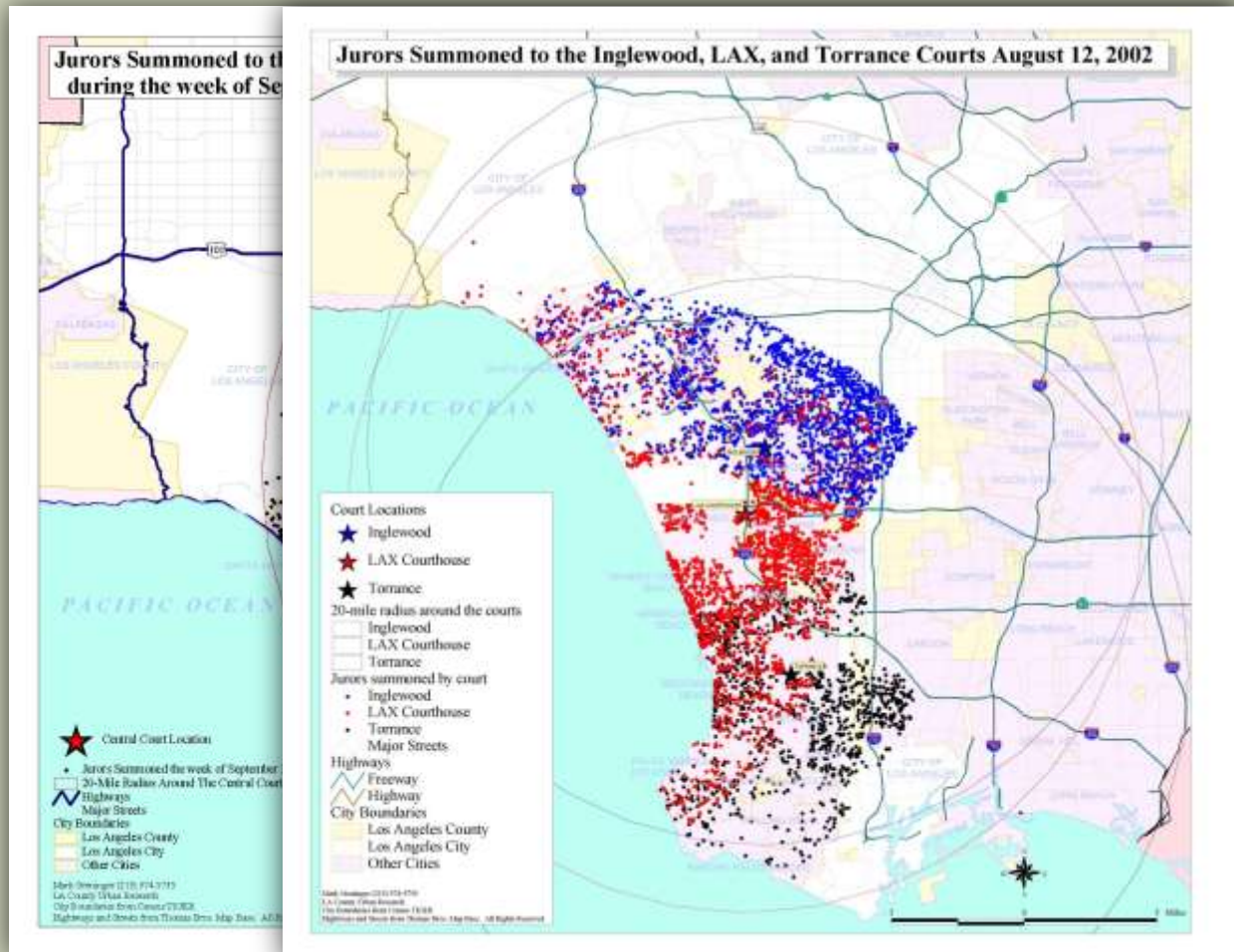
BRINGING LAYERS TOGETHER

- A Map is a group of GIS Data Layers
- GIS Data Layers interact through their location (a hidden variable).
- Examples of questions that can be asked:
 - How close are things to each other?
 - What is the distribution across an area?
 - How many of something are inside of an area/outside an area?
 - Which jurisdiction does an address fall into?
- Basemap layers exist to provide context for these questions
 - Google/Bing/County provide basemap layers

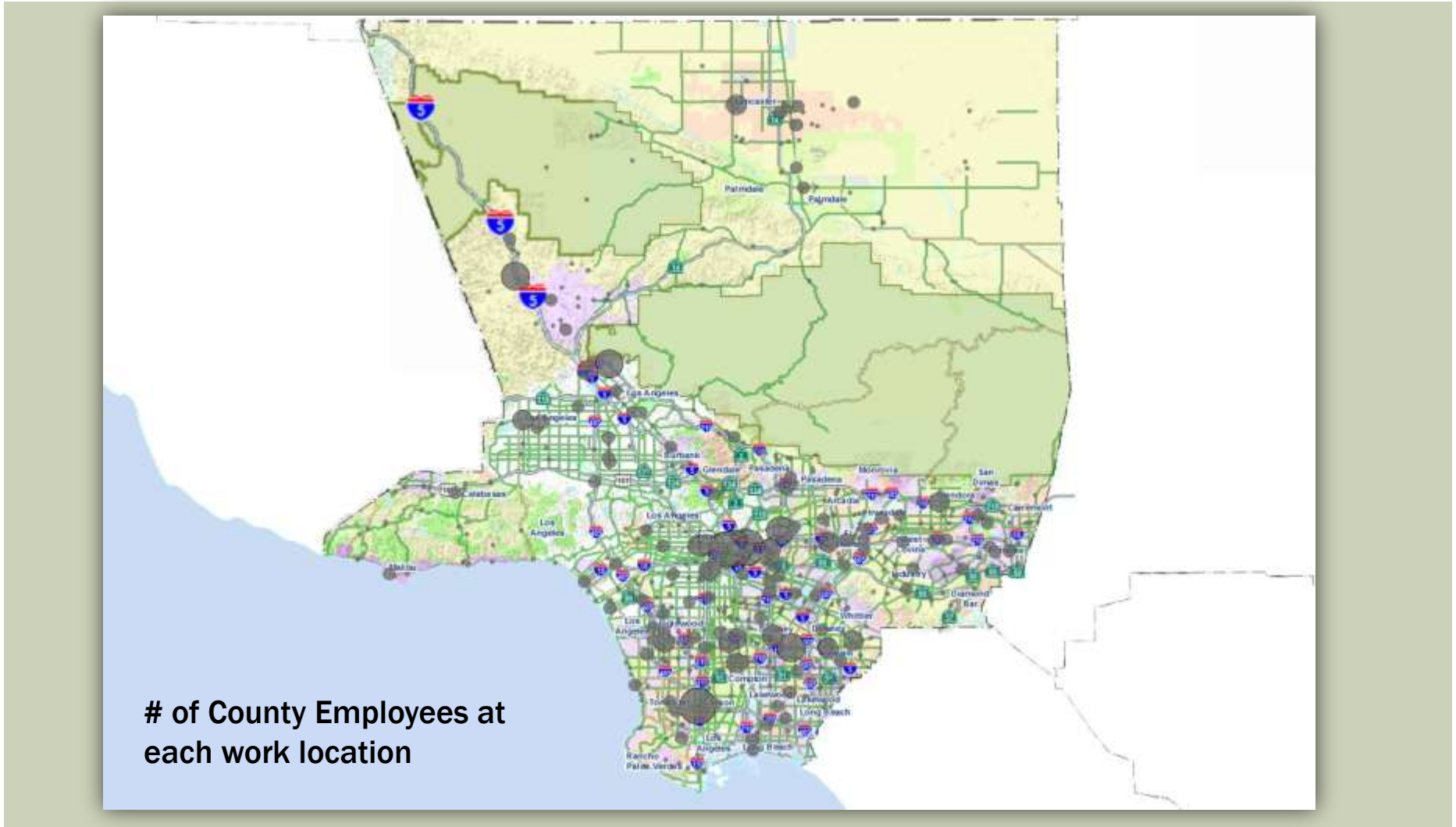
MAP SYMBOLS

- GIS tools support different symbols for different categories of information.

- Color
- Shape
- Size

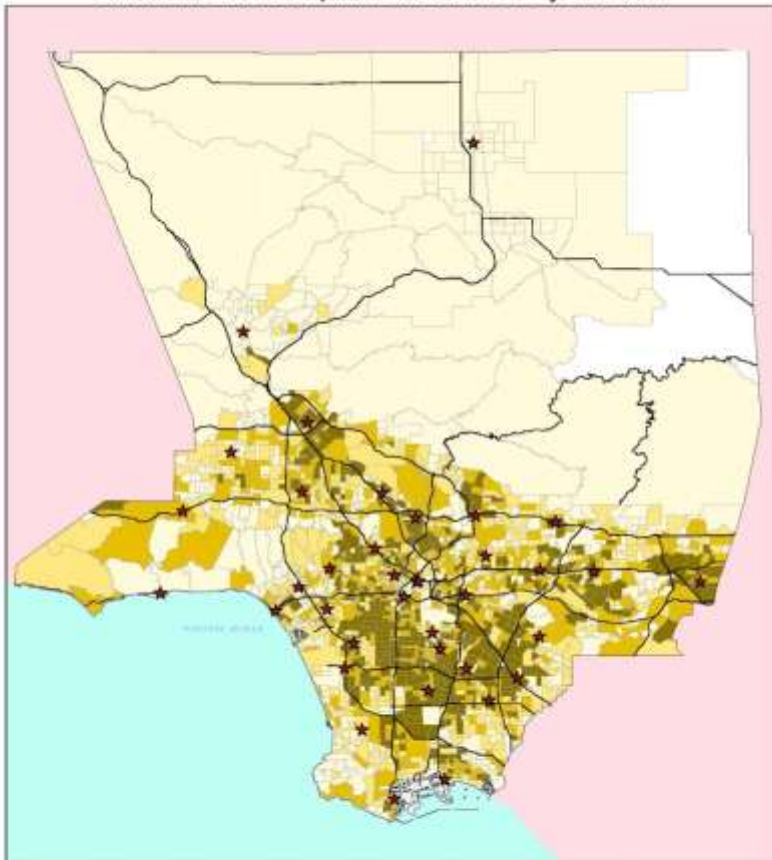


MAP SYMBOLS BY SIZE



THEMATIC MAPS

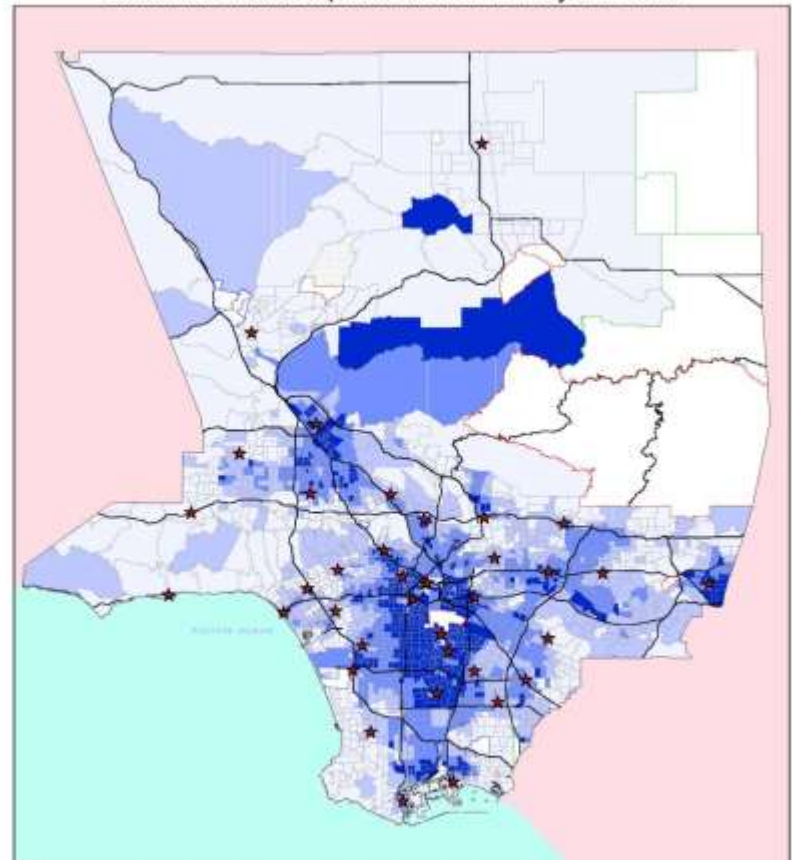
Distribution of Non-Responses in FY 2002-03 by 2000 Tract



★ Court Locations
 Highways
 Non-Responses by Tract
 Number of Non-Responses by Quartile
 None
 1 - 372
 373 - 522
 523 - 712
 713 - 1890

May 12, 2004
 Mark Greeninger (213) 814-0748
 L.A. Co. Urban Research
 Census Tract Boundaries from
 L.A. Co. Registrar/Recorder
 Roads Data from Thomas Brothers

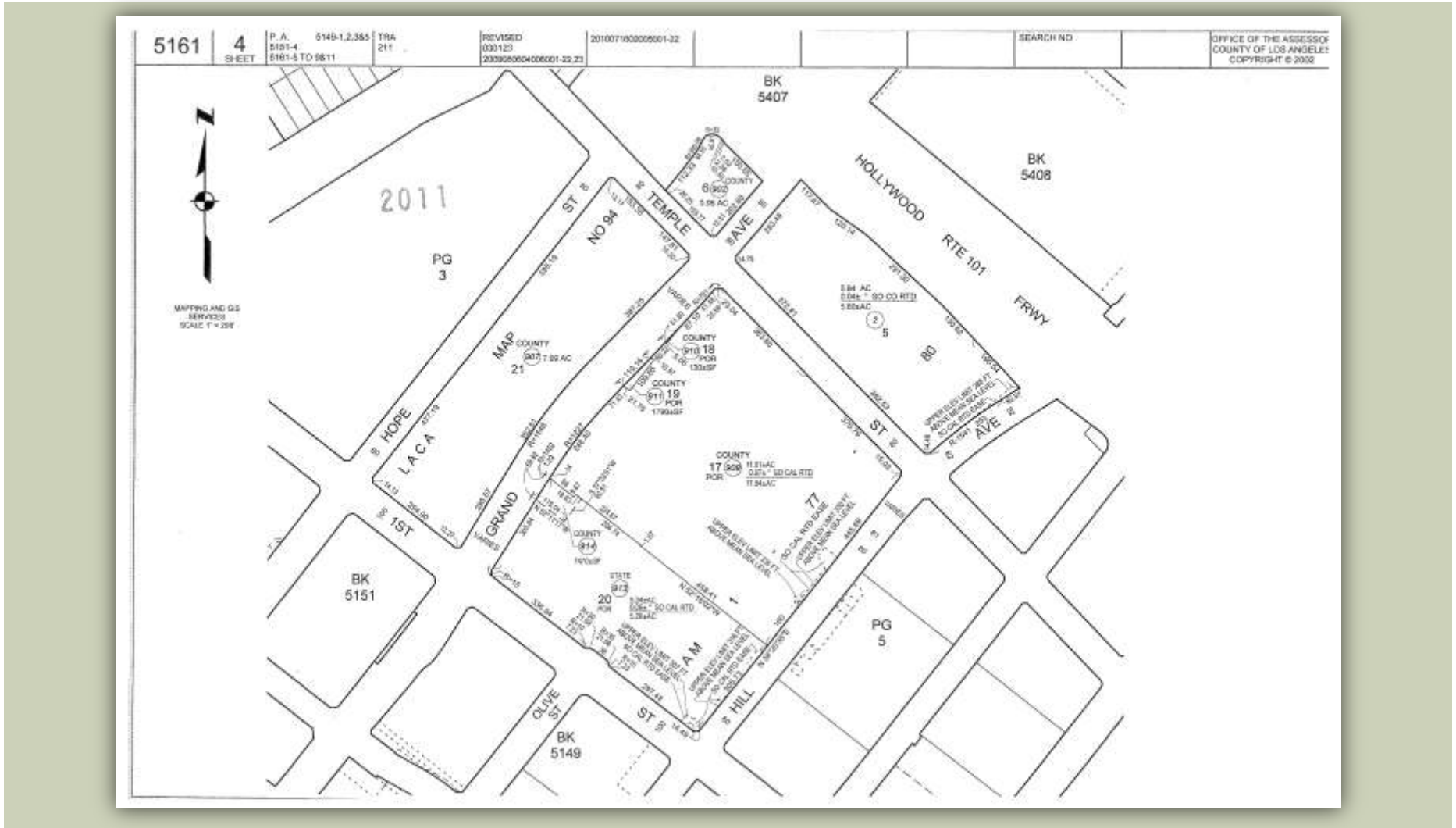
Distribution of Non-Responses in FY 2002-03 by 2000 Tract



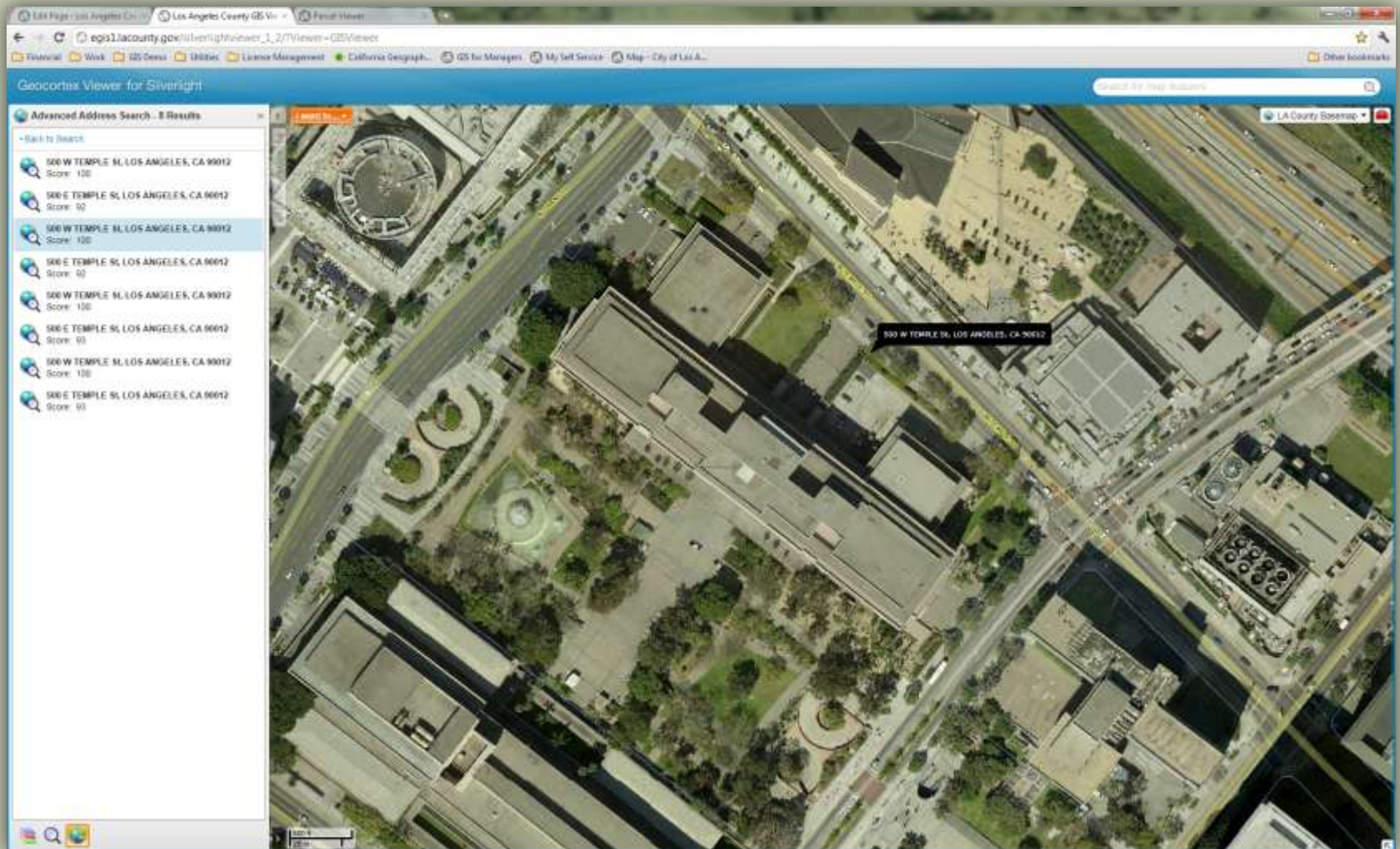
★ Court Locations
 Non-Responses by Tract
 Census Data Suppressed
 No Census
 No Non-Responses
 Highways
 Non-Responses by Tract
 Percent Non-Responses for Census #10
 0 - 14%
 14 - 20%
 20 - 30%
 30 - 100%
 >100%

May 12, 2004
 Mark Greeninger (213) 814-0748
 L.A. Co. Urban Research
 Census Tract Boundaries from
 L.A. Co. Registrar/Recorder
 Roads Data from Thomas Brothers

PROPERTY MAPS



PROPERTY MAPS WITH IMAGERY

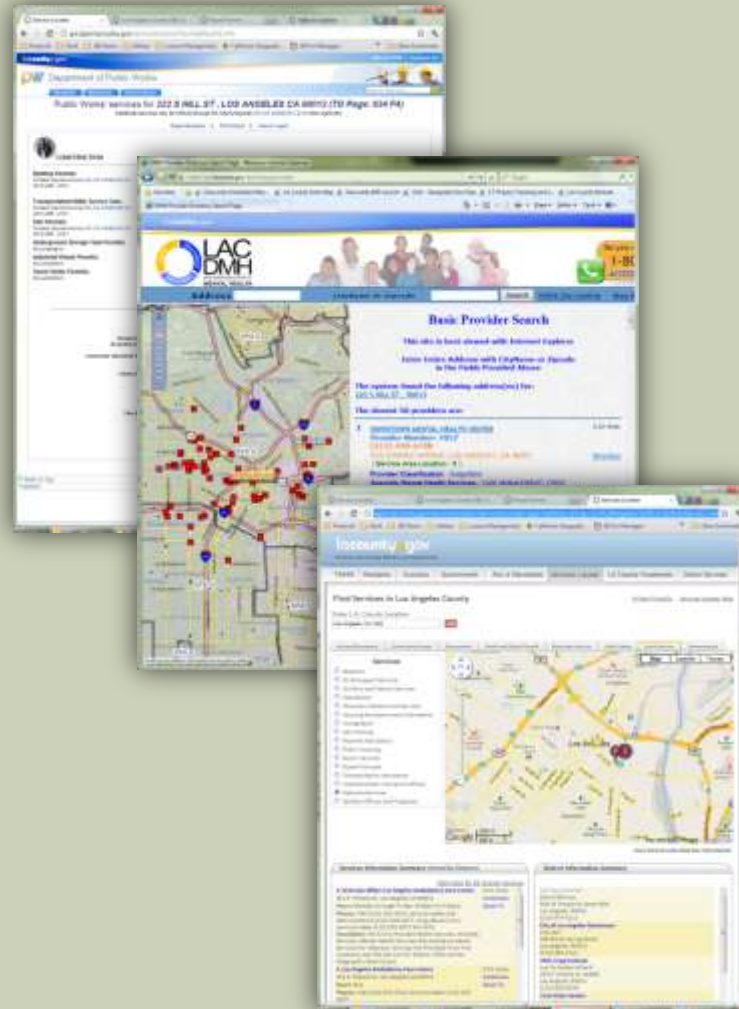


HOW LA COUNTY USES GIS

Some
Examples

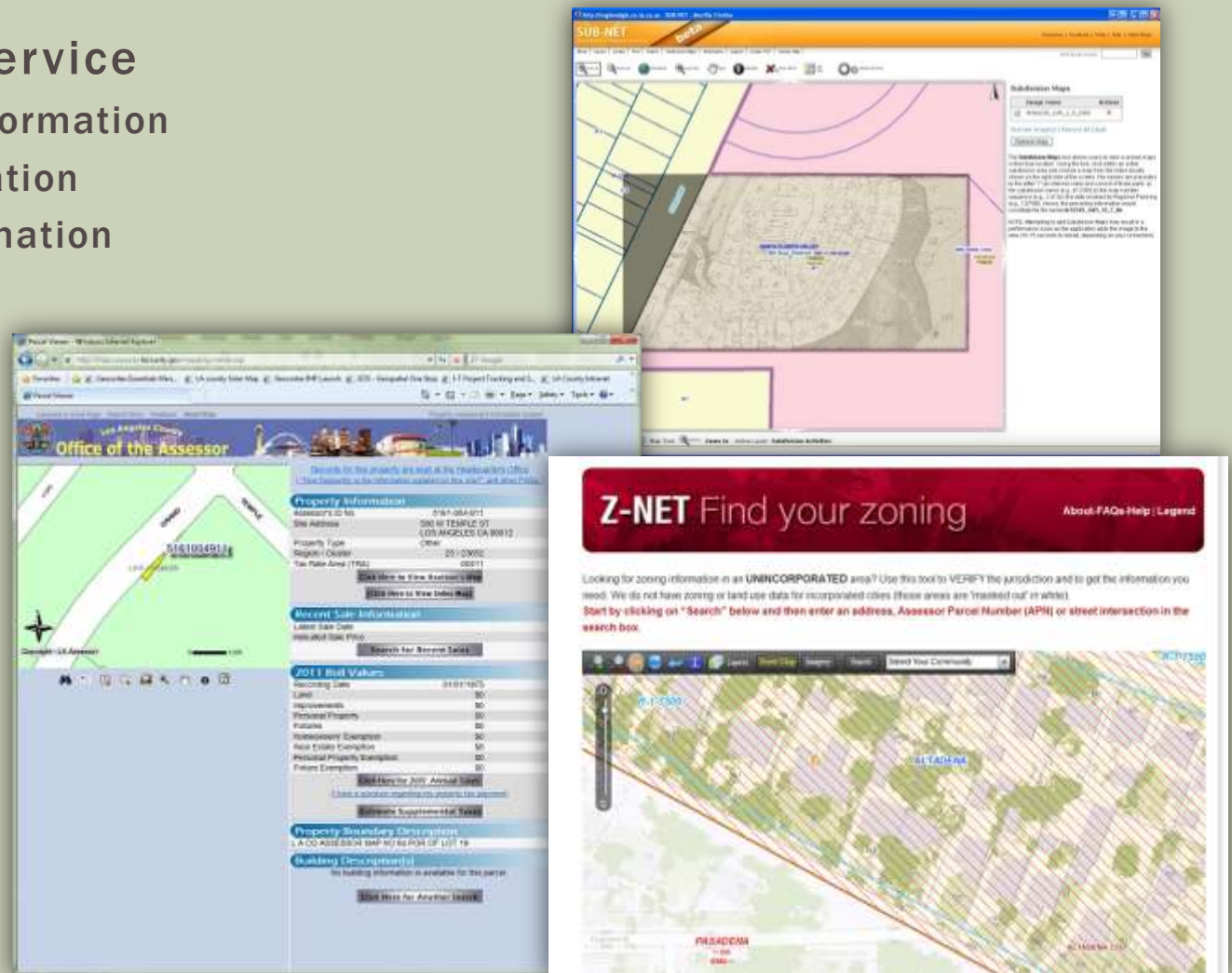
LOCATE SERVICES

- Citizen Self-Service
- Reduce Phone Volume
- Better service and outcomes
- Faster response
- Examples:
 - DMH Provider Directory
 - DPW Services Locator
 - County Services Locator



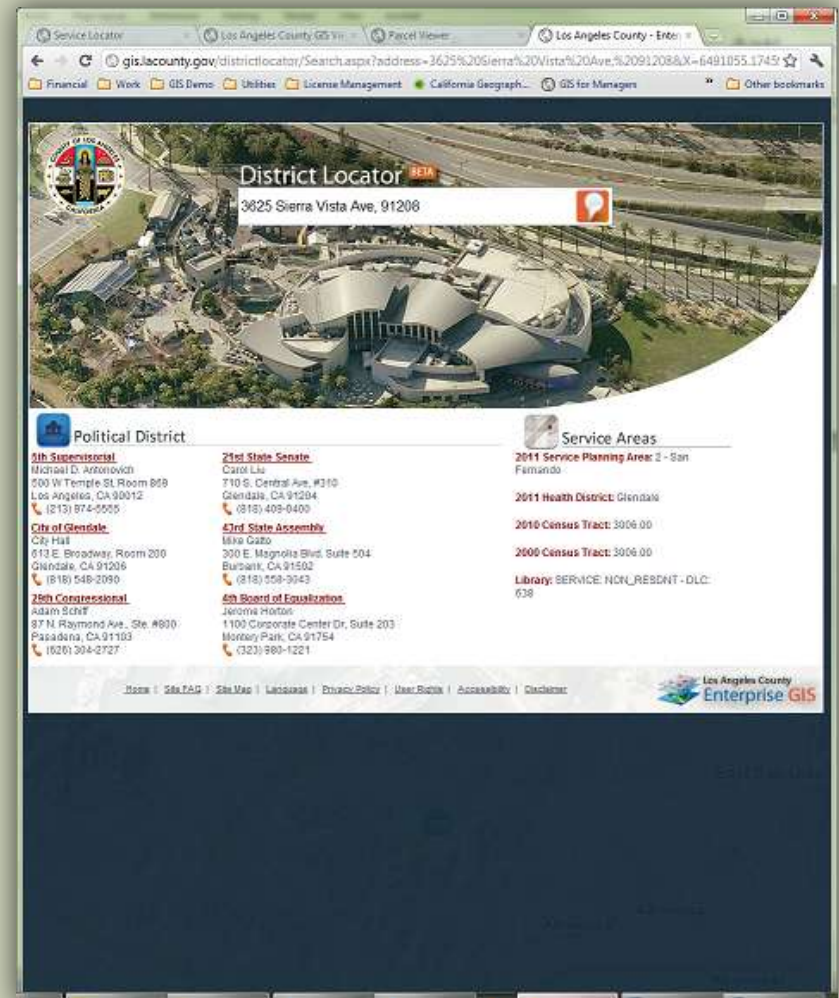
PROVIDE INFORMATION FASTER

- Citizen Self-Service
 - Subdivision information
 - Zoning Information
 - Property Information



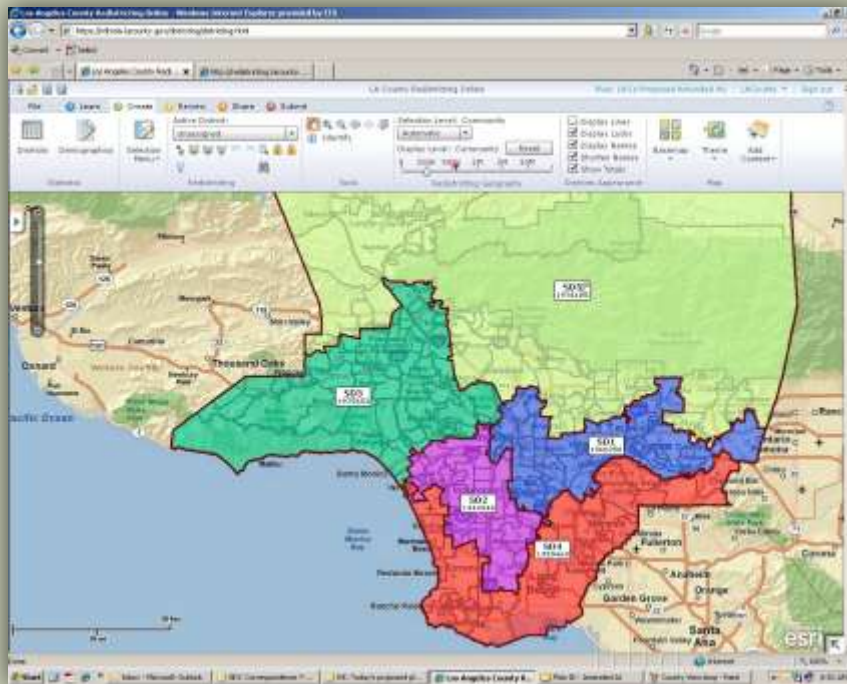
FIND JURISDICTIONS

- Eliminate Referral Errors
- Improve citizen support
- Better Board Support
- Improve Staff Efficiency



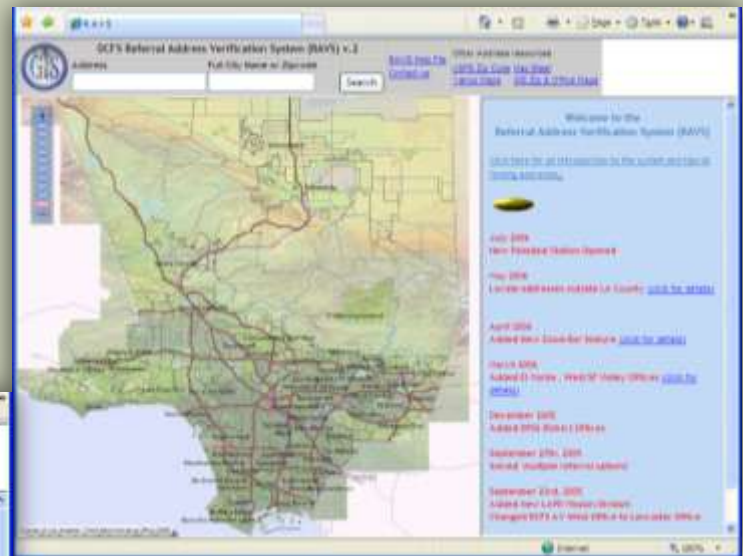
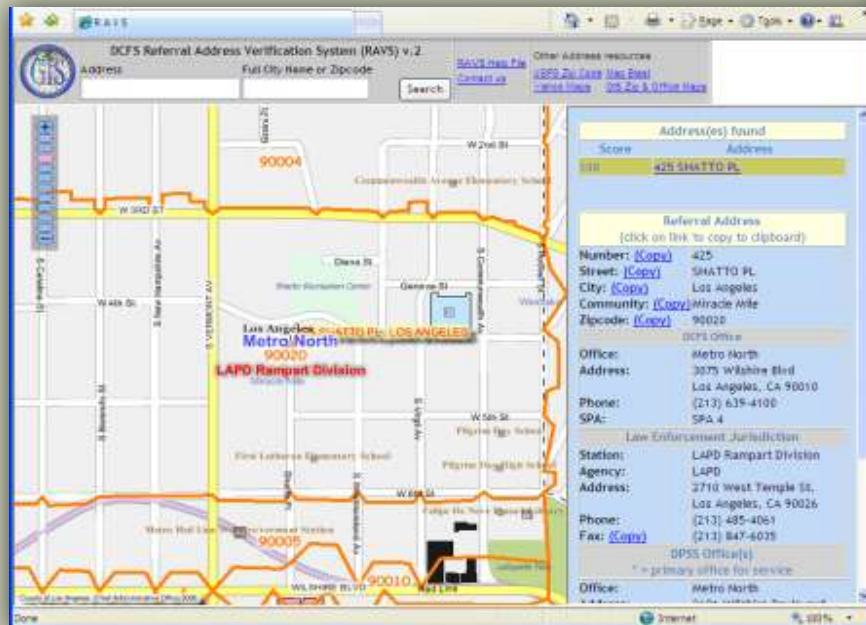
DISTRICTING/REDISTRICTING

- Legal Compliance
(Supervisory Redistricting)
- Balancing Office Workloads
 - DPSS
 - Court Services



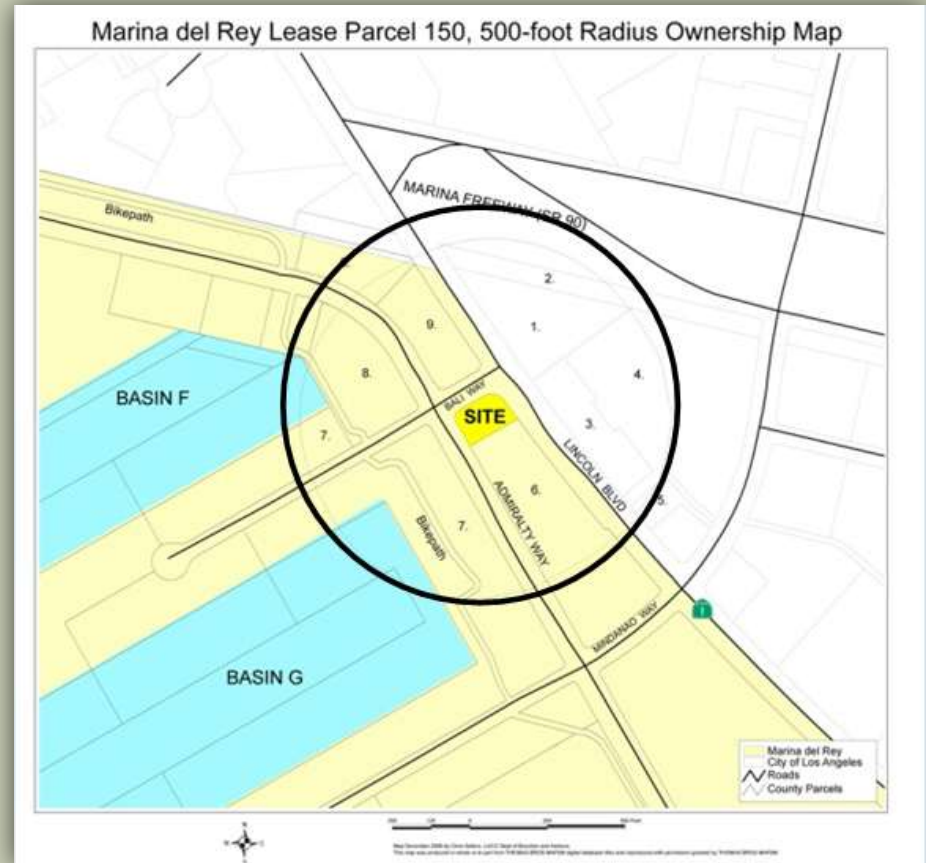
VALIDATE ADDRESSES

- Improve Accuracy
- Reduce Data Entry Errors



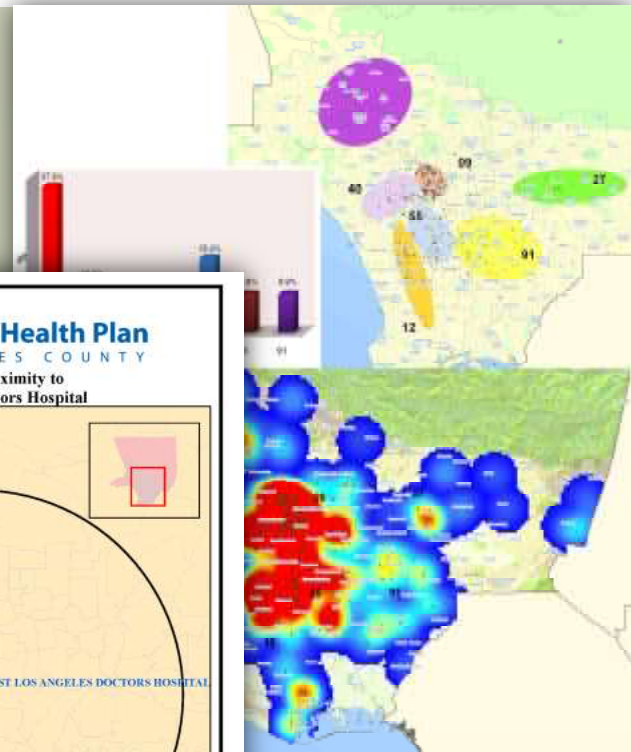
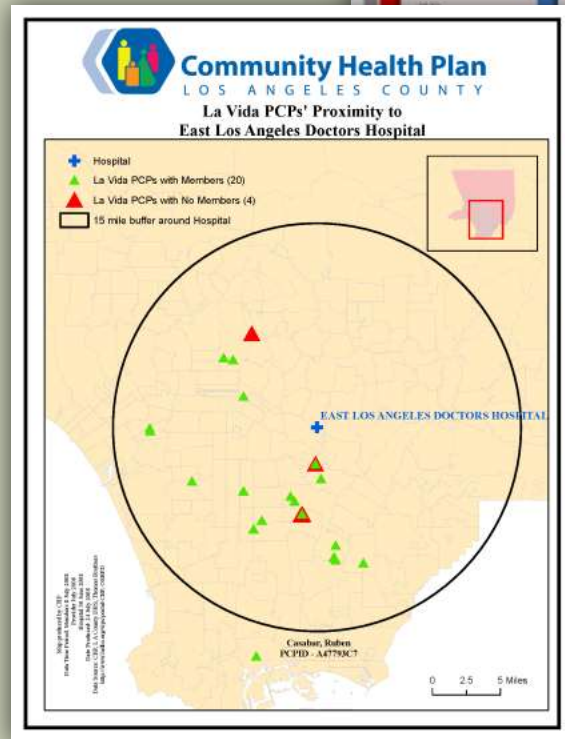
NOTIFY CITIZENS

- Legal Compliance
- Reduce Lawsuit risk
- Public Communication
- Mailing Label Generation



ASSESS RISKS

- See areas with the greatest need (Gap Analysis)
- Focus limited resources on most critical areas
- Plan for disasters



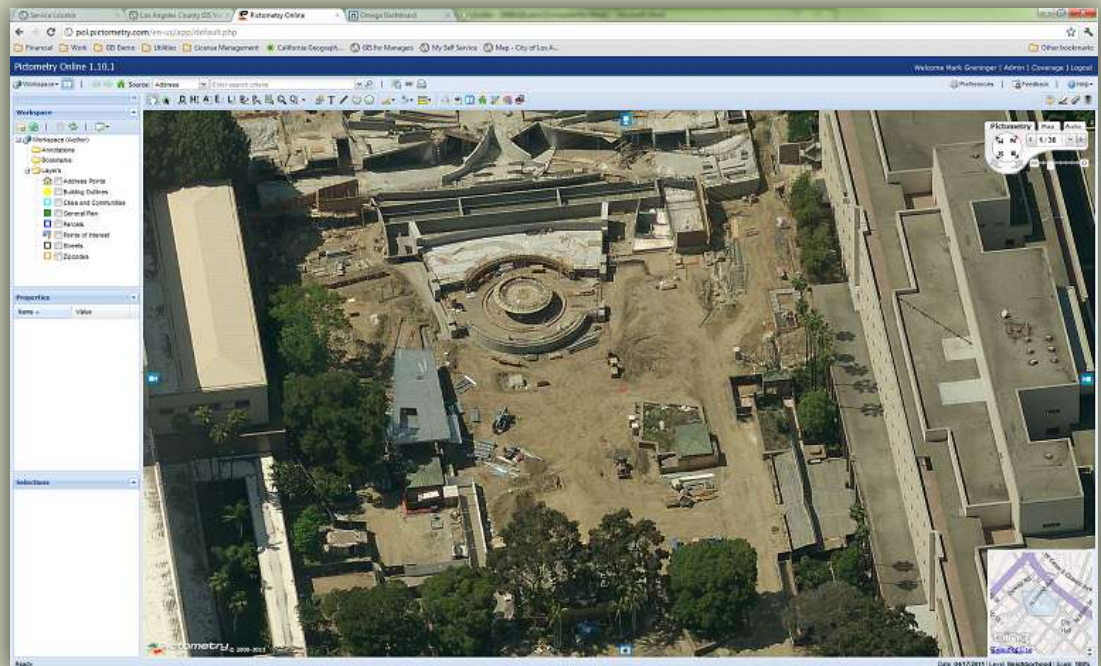
ENHANCE REVENUE

- Find non-paying properties
- Improve grant applications
- Increase funding allocations from federal government.
- Find Encroachment
- Illegal Building/Unpermitted Buildings



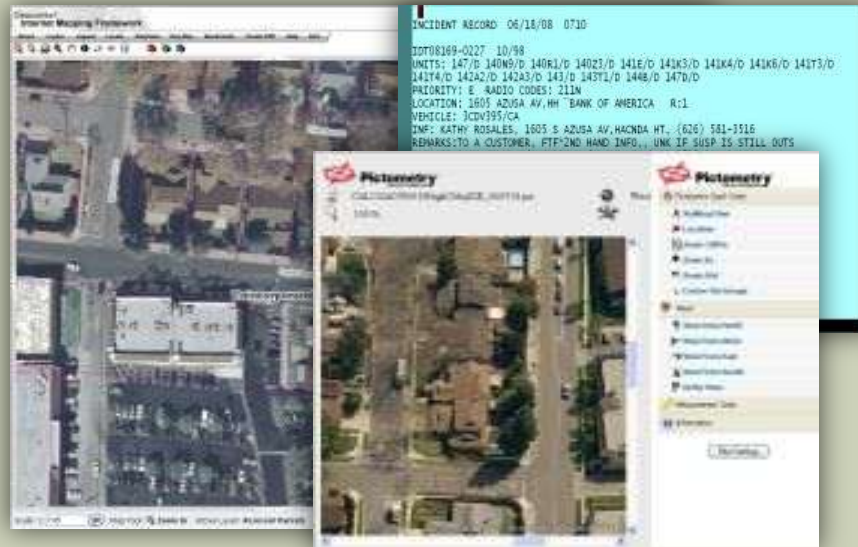
MANAGE FACILITIES & PROPERTY

- Manage Assets (Maximo) from the desk
- Find new Properties for service expansion
- Reduce Site Visits
- Improve Acquisitions



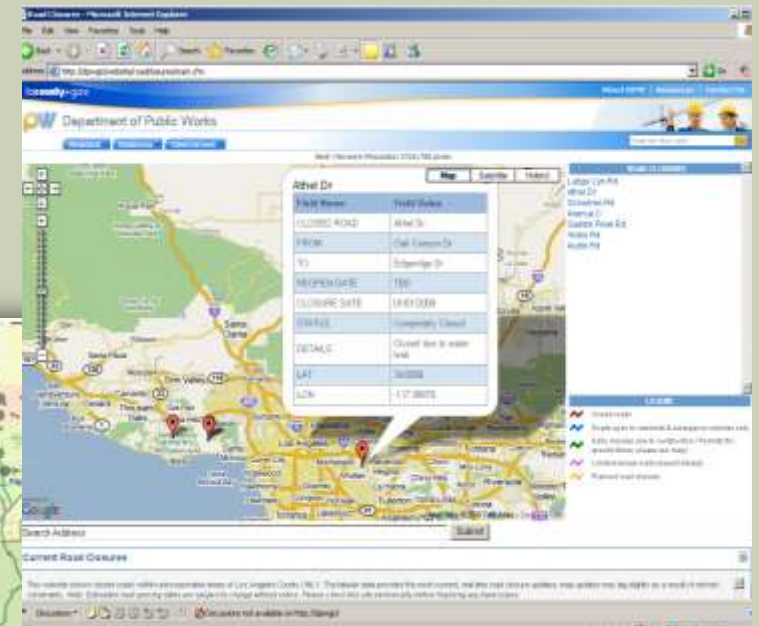
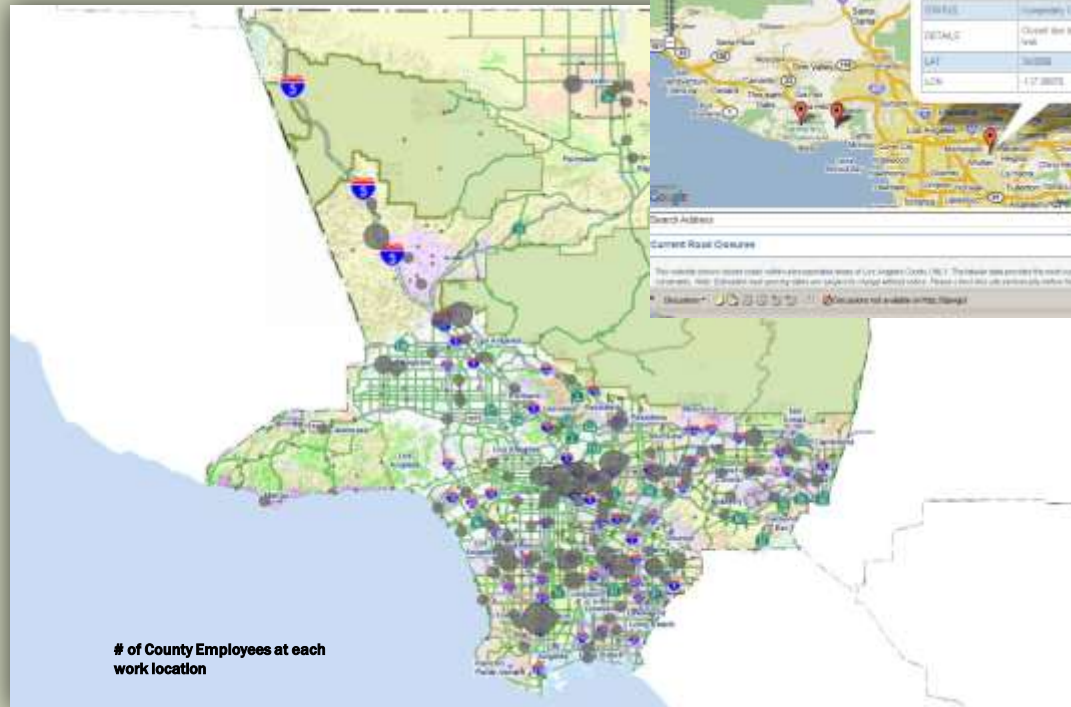
DISPATCH

- Improved Dispatch
- E911 automated call routing



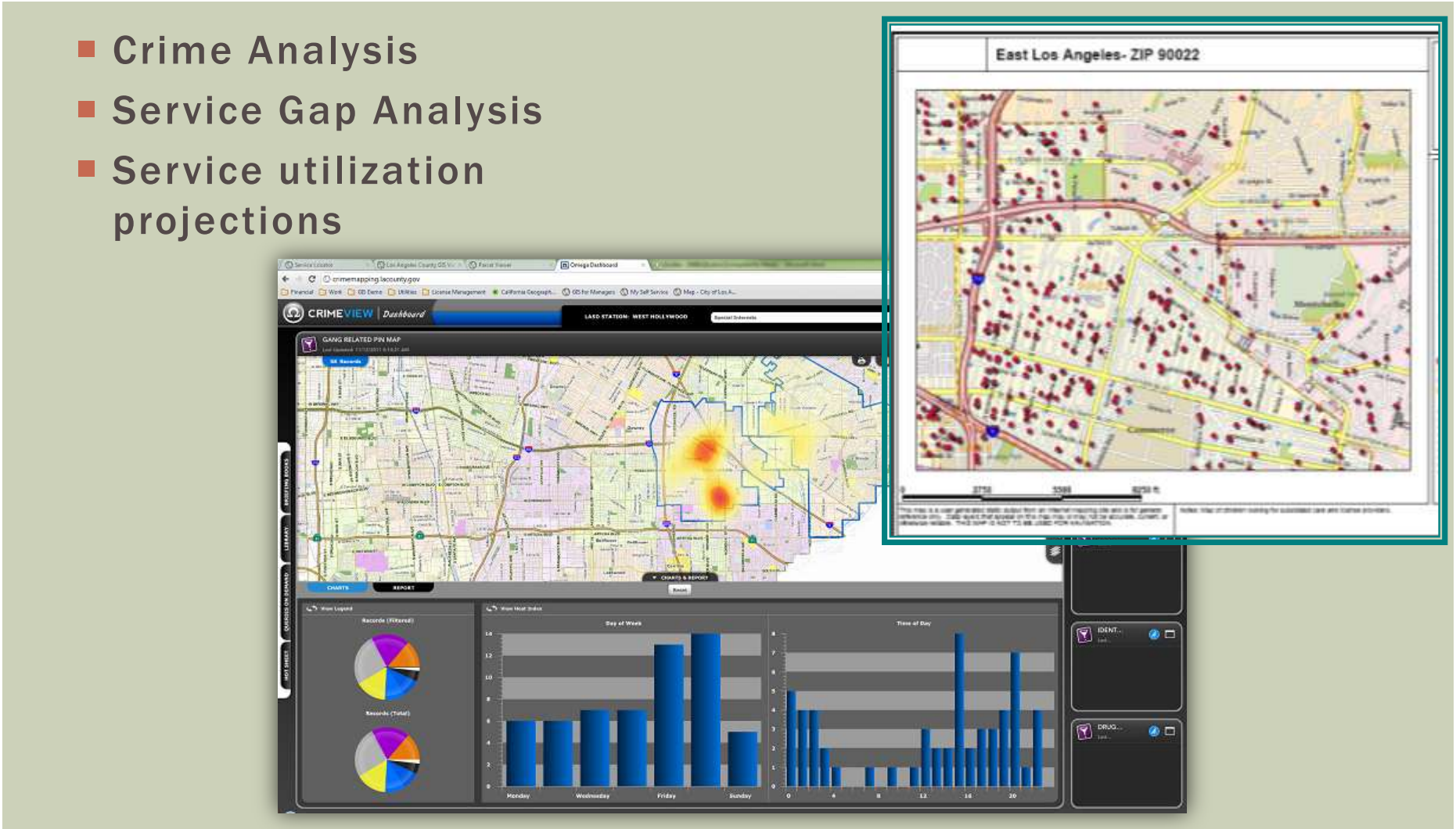
BUSINESS CONTINUITY

- Find backup work locations
- Find critical points of failure
- Mitigate potential issues



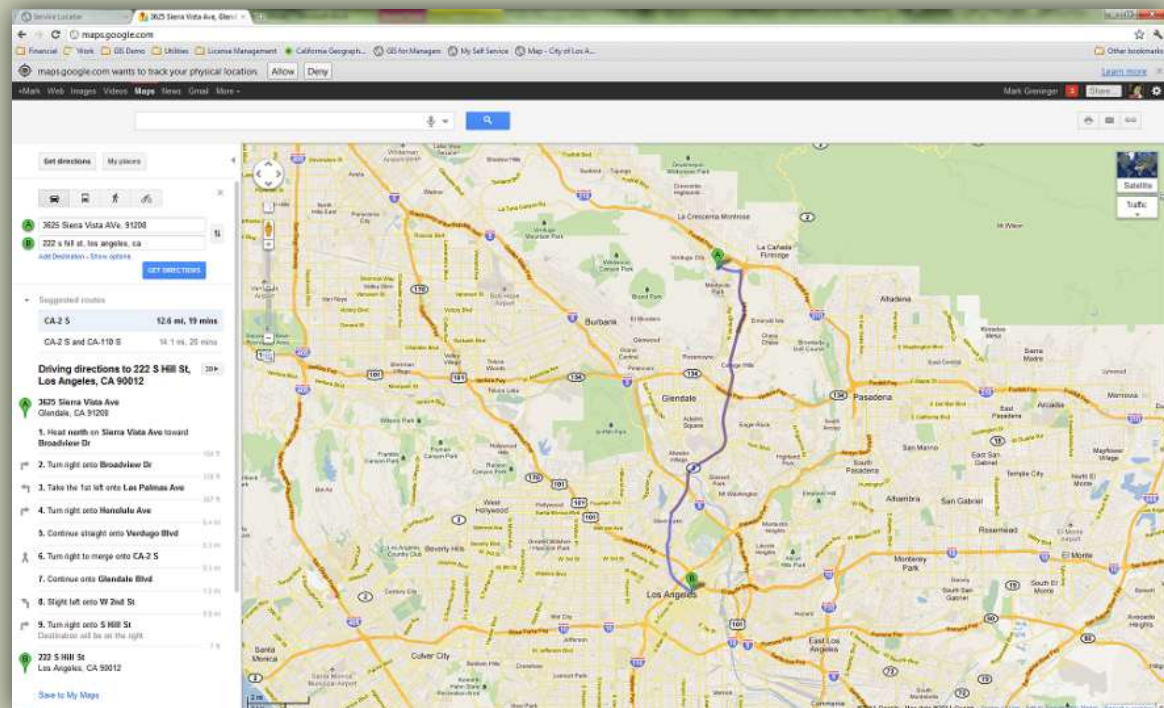
ANALYSIS

- Crime Analysis
- Service Gap Analysis
- Service utilization projections



ADMINISTRATION

- Improved Mileage Claim
- Reduced Errors
- Detect Fraud



LA COUNTY ENTERPRISE GIS

LA COUNTY'S ENTERPRISE GIS



PURPOSE

- Single source of authoritative GIS Data Layers for LA County.
- Eliminate duplication of GIS efforts to:
 - Ensure accuracy;
 - Reduce cost;
 - Improve data sharing.
- Enable countywide GIS capabilities.
- Reflects the scale and scope of the County's GIS investments.
- Searchable through the County's GIS Data Portal:
<http://gis.lacounty.gov/dataportal>

THE LA COUNTY GIS DATA PORTAL

The screenshot shows the Los Angeles County GIS Data Portal website. The browser address bar displays the URL `egis3.lacounty.gov/portal/index.cfm?category=themes/boundaries_political`. The page header includes the site logo, the title "Los Angeles County GIS Data Portal", and the subtitle "GIS Data for LA County". A navigation bar at the top lists various services and tools. The main content area is divided into three columns. The left column features a "Find GIS Data" search bar, a user profile for "Mark Greninger", and a list of categories with item counts. The middle column displays three featured data items: "US Congressional Districts (2011)", "California Board of Equalization Districts (2011)", and "California State Senate Districts (2011)". The right column displays "California State Assembly Districts (2011)". Each featured item includes a brief description, a link to the data, and a "Leave a comment" button.

Los Angeles County GIS Data Portal
GIS Data for LA County

Find GIS Data

Welcome Mark Greninger
Dashboard
Profile
Logout

Categories:

- Base Theme (138)
- Addressing (4)
- Administrative Boundaries (27)
- Boundaries and Cuts (1)
- Cadastre (1)
- Demographic (5)
- Elevation (1)
- Environmental (6)
- Health (1)
- Imagery (1)
- Infrastructure (1)
- Political Boundaries (14)
- Services (1)
- Society (1)
- Transportation (1)
- Data Source (138)
- Assessor (1)
- Beaches and Harbors (1)
- Chief Executive Office (1)
- Chief Information Office (1)
- Children and Family Services (1)
- City (1)
- City of Los Angeles (1)
- Federal (1)
- Census (1)
- POC (1)
- NOAA (1)
- NRRL (1)
- US Geological Survey (1)

US Congressional Districts (2011)
Congressional (2011)
2011 United States Congressional Districts clipped to the LA County Boundary.
This data was created by the California Citizen's Redistricting Commission, and downloaded from their website. [Click here to go to the site.](#)
This data is based upon the US Census Bureau's TIGER line map, and are not the [...]
November 9th, 2011 | Tag: Congressional Districts, Boundaries, Political Boundaries | Category: Free, Political Boundaries, State of California | Leave a comment | Edit this post

California Board of Equalization Districts (2011)
BOE (2011)
2011 California Board of Equalization Districts clipped to the LA County Boundary.
This data was created by the California Citizen's Redistricting Commission, and downloaded from their website. [Click here to go to the site.](#)
This data is based upon the US Census Bureau's TIGER line map, and are not the [...]
November 9th, 2011 | Tag: Board of Equalization, Political Boundaries | Category: Free, Political Boundaries, State of California | Leave a comment | Edit this post

California State Senate Districts (2011)
State Senate (2011)
2011 California State Senate Districts clipped to the LA County Boundary.
This data was created by the California Citizen's Redistricting Commission, and downloaded from their website. [Click here to go to the site.](#)
This data is based upon the US Census Bureau's TIGER line map, and are not the [...]
November 9th, 2011 | Tag: Political Boundaries, State Senate | Category: Free, Political Boundaries, State of California | Leave a comment | Edit this post

California State Assembly Districts (2011)
State Assembly (2011)
2011 United States Congressional Districts clipped to the LA County Boundary. This data was created by the California Citizen's Redistricting Commission, and downloaded from their website. [Click here to go to the site.](#)
This data is based upon the US Census Bureau's TIGER line map, and are not the [...]
November 9th, 2011 | Tag: Political Boundaries, State Assembly | Category: Free, Political Boundaries, State of California | Leave a comment | Edit this post

COUNTY GIS RESOURCES

- **Web Mapping software**
 - Enterprise License for Google/Bing
 - County's license with ESRI provides enhanced tools.
 - GIS services for application development
- **Web GIS software**
 - Geocortex is the County's standard solution for comprehensive web-based GIS sites.
- **Desktop Software**
 - Primary software from ESRI.
 - County has a Master Purchase Agreement.
 - Training available through ISD for staff
 - Support within departments and from ISD


HOW DO I START?

EXPLORE GIS DAY

- Explore the booths
- Talk to County staff at the booths
- See the GIS Viewer presentation (here next)
- Request your first map

REQUESTING MAPS

- There are many different types of maps.
- A GIS Analyst will help you determine the right map.
- Most important question
 - What is the purpose of the map?
 - What are you trying to show?
- What you need to know:
 - How large should the map be.
 - Letter, Tabloid, Poster
 - The data source
 - What your data means.



The image shows a 'GIS Work Request' form from the Department of Regional Planning, Information & Fiscal Services Division, GIS Section. The form is dated 11/14/2011. It includes fields for 'From:', 'Section Head signature:', 'Project code:', 'Task code:', 'Product description:', 'Comments:', 'Key features:' (with a numbered list 1-8), 'Purpose or Project:', 'Scale and/or size:', 'Copies needed:', 'Draft due date:', 'Final due date:', and 'Other comments or instructions:'. There is also a section for 'For GIS Section Use Only' with fields for 'Request approved by GIS Manager or designer:', 'Completed by:', 'Date:', and 'Path to project/map/data, if applicable:'. The form is numbered 1000 on the bottom left and 1000 on the bottom right.

Department of Regional Planning
Information & Fiscal Services Division
GIS Section

GIS Work Request

Date: 11/14/2011

From: _____ Section: _____

Section Head signature: _____

Project code: _____ Task code: _____ (for time sheet coding, e.g., 3000-10)

Product description: _____ Comments: _____

Key features:

1. _____
2. _____
3. _____
4. _____
5. _____
6. _____
7. _____
8. _____

Purpose or Project: _____

Scale and/or size: _____

Copies needed: _____

Draft due date: _____

Final due date: _____

Other comments or instructions: _____

For GIS Section Use Only

Request approved by GIS Manager or designer: _____

Completed by: _____

Date: _____

Path to project/map/data, if applicable: _____

1000 1000

A STARTING GIS MAP

1. Geocode a table of addresses (convert addresses to a GIS Layer) to a point (dot) GIS layer.
 2. Place the results on a map with an existing basemap.
-
1. Geocode a table of addresses.
 2. Assign a district to each point based upon its location (Supervisory District, for example)
 3. Create a summary table of the number of addresses in each supervisory district.
 4. Create a chart showing the distribution by district.

FOR MORE INFORMATION

- LA County Enterprise GIS Site
 - <http://gis.lacounty.gov/egis>
- Documents
 - Case Studies
 - Strategic Plans
 - GIS Projects Pages
 - Information

GIS DAY FOR MANAGERS

- Next session: The LA County GIS Viewer
- Explore the booths (we will have guides)
- Meet at the Tour Rendezvous at 10:45
- Stay as long as you like (event goes until 3:30)

QUESTIONS?

Mark Greninger

mgreninger@cio.lacounty.gov

(213) 253-5624